SONY

3-756-338-21 (1)

# Stereo Cassette Deck

Operating Instructions

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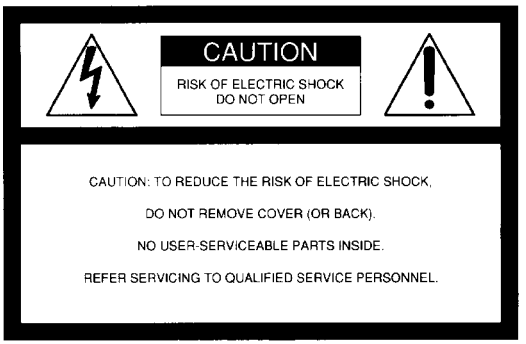
# WARNING

**To prevent fire or shock hazard, do not expose the unit to rain or moisture.**


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

## Owner's Record

The model and serial numbers are located on the rear of the unit. Record the serial number in the space provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. TC-FX211 Serial No. _____

**INFORMATION**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

— Reorient or relocate the receiving antenna.
— Increase the separation between the equipment and receiver.
— Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
— Consult the dealer or an experienced radio/TV technician for help.

**CAUTION**

You are cautioned that any change or modifications not expressly approved in this manual could void your authority to operate this equipment.

**NOTICE FOR THE CUSTOMERS IN THE UNITED KINGDOM**

If the plug supplied with this appliance is not suitable for the socket outlet in your home, it should be cut off and appropriate plug fitted.

**IMPORTANT**

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral
Brown: Live

As the colours of the wires in the mains lead of this apparatus may not correspond to the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Do not connect either wire to the earth terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured green or green-and-yellow.

Should the fuse in the plug supplied with this appliance need to be replaced, a 5 AMP FUSE approved by ASTA or BSI to BS 1362, ie carries the ⊛ mark or the ♆ mark must be used.

**WARNING**

To prevent shock hazard, do not insert the plug cut off from the mains lead into a socket outlet. This plug cannot be used and should be discarded.

If the plug supplied with this appliance has detachable fuse cover, be sure to attach the fuse cover after you change the fuse. Never use the plug without the fuse cover.

If you should lose the fuse cover, please contact your nearest Sony service station.

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# Features

**For higher quality recording/playback**

- **B and C type Dolby NR* systems** which reduce tape noise.
- **Automatic tape type selection** during playback and *recording.*
- **Bias control** which ensures optimum recording conditions to bring out the best in every tape.

* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ⊡⊡ are trademarks of Dolby Laboratories Licensing Corporation.

# Precautions

**On safety**

- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it will not be used for a long time. To disconnect the cord, pull it out by grasping the plug. Never pull the cord itself.
- The unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the unit itself has been turned off.

**On operation**

- When the unit is not used, turn the power off to conserve energy and to extend the useful life of your unit.

**On head cleaning**

The head and tape path should be cleaned after every ten hours of operation. Dirty heads and a dirty tape path may cause:

— loss of high-frequency response
— loss of sound volume
— sound drop-out

If you have any questions or problems concerning your unit, please contact your nearest Sony dealer.

**For the customers in the U.S.A.**

For detailed safety precautions, see the leaflet "IMPORTANT SAFEGUARDS".

# Unpacking

## Checking the Supplied Accessories

Make sure that the following accessories are included with your unit.

- Audio connecting cords (2)

## Notes on Installation

- Place the unit with the front panel facing you in a location with adequate air circulation to prevent overheating of the unit.
- Do not place the unit:
  — near heat sources such as radiators or air ducts.
  — in places subject to direct sunlight, excessive dust, mechanical vibration or shock.
  — in an inclined position.
  — on a rug or other soft surfaces that would block the ventilation holes on the bottom of the unit.

**Do not throw away the carton and the packing material**

They will come in handy when transporting the unit or shipping it for servicing.

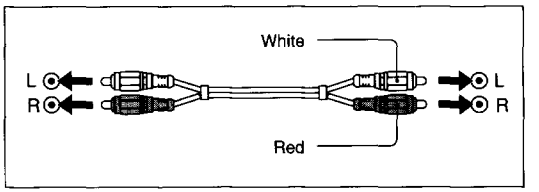
## Checking the Operating Voltage

- Operate the unit only on 120 V AC, 60Hz. (U.S.A. model) or 240 V AC, 50/60 Hz (U.K. and Australia models).
- Before operating the unit, be sure that the operating voltage of your unit is identical with that of your local power supply.

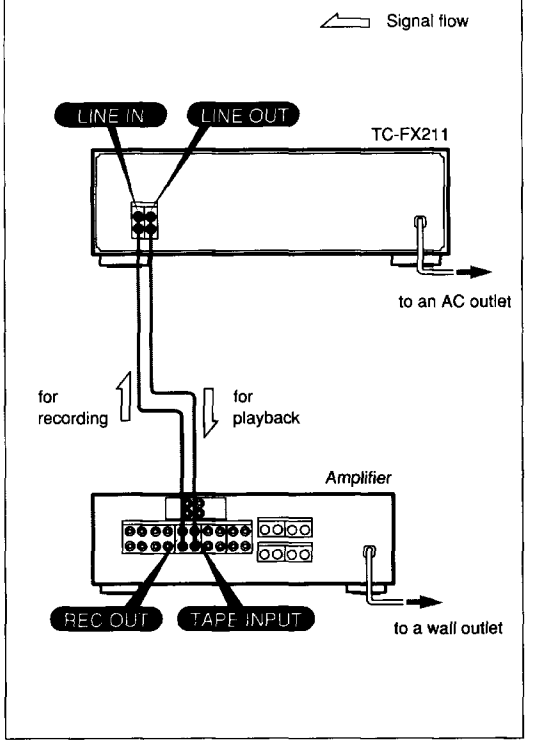
# Hooking Up the System

## Before You Begin

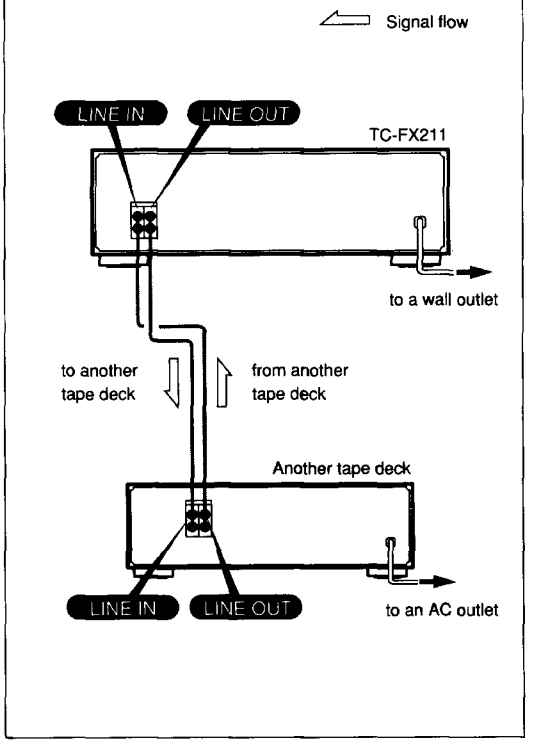
- Turn off the power to all equipment to be connected before making any connection.
- Note that the red plug of the supplied connecting cord is for right-channel (R) connection and the white plug for left-channel (L) connection.
- The connecting cords should be fully inserted into the jacks. A loose connection may cause hum pickup.




## Hook-up Example

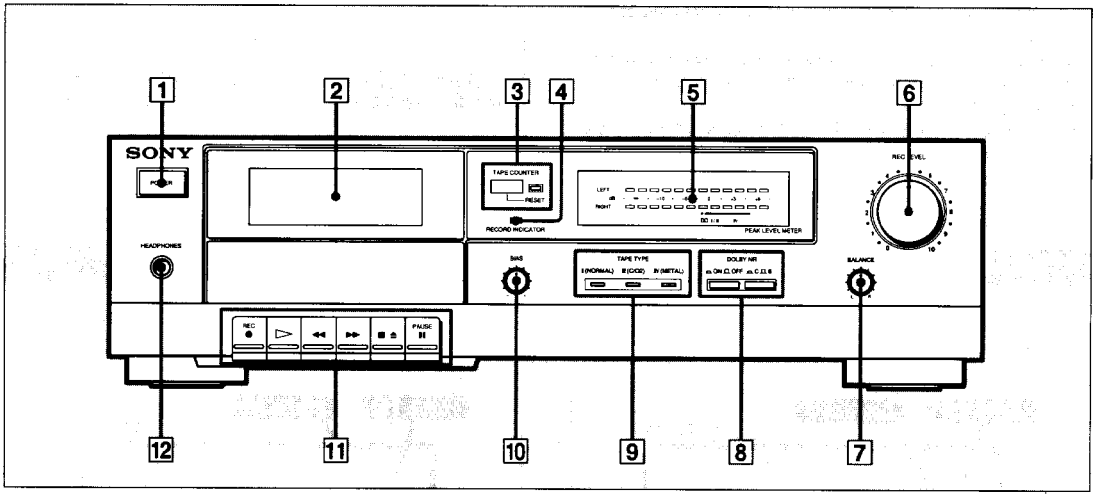



## Hook-up for Tape Dubbing



# Identifying the Parts

## Front Panel




For details, refer to the page number(s) indicated in parentheses.

1 **POWER switch**

2 **Cassette holder**

3 **TAPE COUNTER and RESET button**

4 **RECORD INDICATOR (page 8)**

5 **PEAK LEVEL METER (page 9)**

6 **REC (recording) LEVEL control (pages 8, 9)**

7 **BALANCE control (page 8)**

8 **DOLBY NR (noise reduction) buttons (pages 7, 8)**

9 **TAPE TYPE indicators**

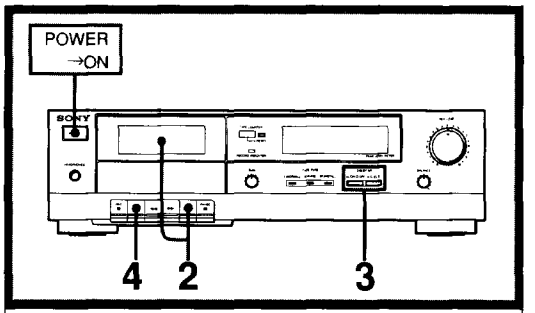
10 **BIAS control (page 9)**

11 **Tape operation buttons**
- ● REC (recording) button
- ► (play) button
- ◄◄ (rewind) button
- ►► (fast-forward) button
- ■⏏ (stop/eject) button
- ❚❚ PAUSE button

12 **HEADPHONES jack (stereo phone jack) (page 7)**

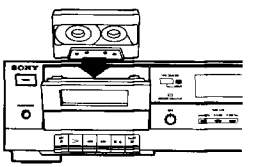
# Playing Back

Follow the procedure below to play back a cassette.




**1** **Turn on the amplifier and select the tape function.**

**2** **Insert a cassette.**



**3** **Set DOLBY NR to the same position that was used when the cassette was recorded.**

| Dolby NR system | Setting | |
|---|---|---|
| | ON/OFF (left) | B/C (right) |
| B type | ⊓ | ⊔ |
| C type | ⊓ | ⊓ |
| OFF | ⊔ | Either position |

**4** **Press PLAY to start playback.**

**To stop playback,** press the ■ ⏏ button.
**To stop playback momentarily,** press the ❚❚ button.
To restart playback, press the ❚❚ button.
**To fast forward the tape,** press the ▶▶ button.
**To rewind the tape,** press the ◀◀ button.
**To shut off the unit after winding the tape,** press the ■ ⏏ button.

**For headphone listening**
Connect the headphone plug to the HEADPHONES jack.

**Is it necessary to set the tape type being used?**
No. The deck has an automatic tape type detection system. Of the four major types of tapes, your unit can use TYPE I (normal), TYPE II ($CrO_2$) and IV (metal). The tape detection system automatically adjusts the equalization and bias current to the optimum level for the type of cassette detected.

**What is the Dolby NR system?**
The Dolby NR (noise reduction) system reduces tape hiss noise in low-level, high-frequency signals by boosting the signals during recording and lowering them during playback.

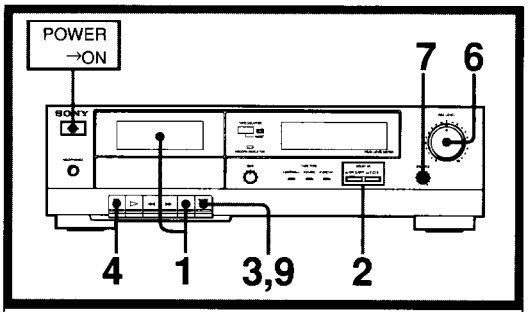
**Before turning off the power**
Be sure to release the ▶ button by pressing the ■ ⏏ button. Otherwise, the tape may become tangled when power is turned on again.

**After winding the tape using the ◀◀ or ▶▶ button**
Be sure to press the ■ ⏏ button to release the fast winding button.

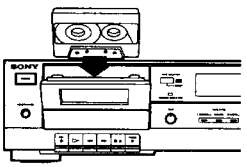
# Recording

## How to Record to a Cassette

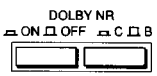
Follow this procedure to record a source on a cassette.




**1** **Insert a cassette with the side to be recorded facing outward.**



**2** **Set DOLBY NR.**




**3** **Press II to enter the pause mode.**

**4** **Press ● to enter the recording pause mode.**

**►► will be pressed down automatically,** and RECORD INDICATOR will turn on.

**5** **Play the program source to be recorded.**

**6** **Turn REC LEVEL to adjust the recording level.**

See **"Adjusting the Recording Level"** on page 9.

**7** **Turn BALANCE to adjust the balance.**

**8** **Restart the program source, if required.**

**9** **Press II to start recording.**

**To stop recording,** press the ■ ≜ button.

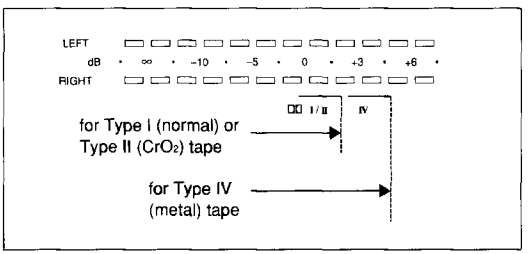
**If the side whose tab has been removed is selected for recording**
You cannot start recording. To record a cassette for recording, cover the respective slot with tape. See "To Protect a Recording" on page 9.

**Before turning off the power**
Be sure to release the ● button by pressing the ■ ≜ button.

## Adjusting the Recording Level

The optimum recording level, which differs according to the tape type, is indicated on the PEAK LEVEL METER for each tape type.
*Adjust the REC LEVEL control as high as possible without* exceeding the recommended range for the tape type being used.

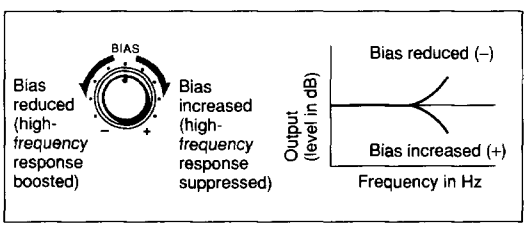
**PEAK LEVEL METER readings by tape type**
Recommended maximum PEAK LEVEL METER readings.




**Tips on recording level adjustment**
- If the recording level setting is too high, the recording will be distorted; if it is too low, the tape will produce a hissing sound. Therefore, the recording level should be set as high as possible without causing distortion.
- If the program source to be recorded has many high frequency signals, set the level to a relatively low position.

## Making an Optimum Recording According to the Tape Type—Bias Adjustment

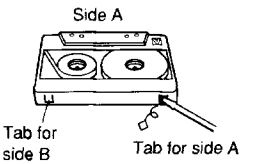
To obtain the optimum frequency response, use the BIAS *control to adjust the bias current according to the tape type* being used. Reducing the bias boosts high frequencies but increases distortion. Increasing the bias decreases distortion but suppresses high frequencies. Balance the bias according to your listening preference.




**Note**
In the case of TYPE IV cassette tapes, however, the frequency change for any given bias setting will be minimal.

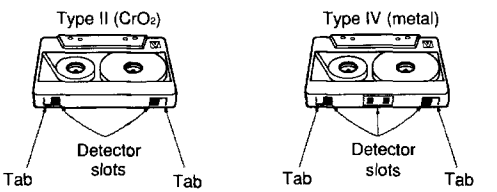
## To Protect a Recording

**To protect a recording on side A or B**
Break out the respective tab.




**To recover a cassette for recording**
Cover the respective slot with tape.

**When using Type II ($CrO_2$) or Type IV (metal) cassettes**
Be careful not to cover the detector slots which are necessary for automatic tape detection.




**Cassette care**
- Avoid touching the tape surface of a cassette to prevent contamination of the heads by dirt, dust, or oil on the skin.
- Keep cassettes away from equipment with magnets, such as speakers and amplifiers, as erasure or distortion on the recorded tape could occur.
- Do not expose cassettes to direct sunlight, extremely cold temperatures or moisture.

**Note on cassettes longer than 90 minutes**
The use of cassettes longer than 90 minutes is not recommended except for long continuous playback.

# Maintenance

## Cleaning the Heads and Tape Path

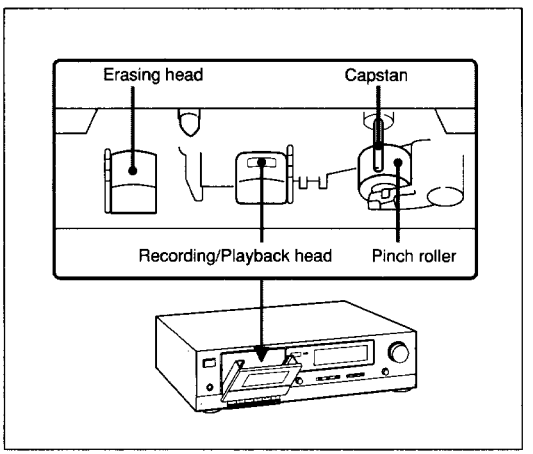
Clean all surfaces over which the tape travels after every ten hours of operation to guard against:
— low-quality sound
— a decrease in sound level
— excessive wow, flutter or drop-out
— incomplete erasure
— impairment of recording function

To obtain high-quality recorded sound, cleaning before every recording is recommended.

**1 Press ■⏏ to open the cassette holder. Grasp the front of the holder on both sides and gently lift to remove it.**

**2 Wipe the heads, the pinch rollers and the capstans with a cotton swab slightly moistened with alcohol or commercially available cleaning fluid for tape decks.**

**3 Replace the cassette holder.**




Do not insert a cassette until the cleaned areas are completely dry.

## Demagnetizing the Heads

After 20 to 30 hours of use, or when you notice hiss and/or loss of high frequencies, the residual magnetism built up on the heads should be removed.

**1 Turn off the power.**

**2 Press ■⏏ to open the cassette holder.**

**3 Demagnetize the heads with any commercially available demagnetizer.**

Refer to the instruction manual of the demagnetizer for detailed instructions.

## Cleaning the Cabinet

Clean the cabinet, panel and controls with a soft cloth slightly moistened with a mild detergent solution.
Do not use any type of abrasive pad, scouring powder or solvents such as alcohol or benzine.

# Specifications

| | |
|---|---|
| Recording system | 4-track 2-channel stereo |
| Fast winding time | Approx. 120 sec. (with Sony C-60 cassette) |
| Bias | AC bias |
| Heads | Erasing head × 1 (F&F head)<br>Playback/Recording head × 1 (SD head) |
| Motors | Capstan/Reel motor × 1 (DC servo motor) |

Signal-to-noise ratio (at peak level)

| Cassette (Dolby NR OFF) | Type IV (Sony METAL-S or ES-IV) | Type II (Sony UX-S or UX) | Type I (Sony HF-S) |
|---|---|---|---|
| | 58 dB | 57 dB | 55 dB |

*Measured at peak level weighted without NR. The S/N is improved by about 15 dB at 500 Hz and by about 20 dB at about 1 kHz with Dolby-C NR on, and by 5 dB at 1 kHz and by 10 dB at about 5 kHz with Dolby-B NR on.*

Total Harmonic distortion
1.0% (with Sony Type IV)

Frequency response (Dolby NR OFF)

| | |
|---|---|
| Type IV cassette (Sony METAL-S or ES-IV) | 30 - 15,000 Hz (±3 dB, IEC)<br>30 - 13,000 Hz [±3 dB, (-4dB recording)] |
| Type II cassette (Sony UX-S or UX) | 30 - 14,000 Hz (±3 dB, IEC) |
| Type I cassette (Sony HF-S) | 30 - 13,000 Hz (±3 dB, IEC) |

Wow and flutter ±0.16% W.Peak (IEC)
0.11% W.RMS (NAB)
±0.20% W.Peak (DIN)

Inputs

| | | |
|---|---|---|
| Line inputs (phono jacks) | Sensitivity | 77.5 mV |
| | Input impedance | 47 k ohms |

Outputs

| | | |
|---|---|---|
| Line outputs (phono jacks) | Rated output level | 0.32 V at a load impedance of 47 k ohms |
| | Load impedance | Over 10 k ohms |
| Headphones (stereo phone jack) | Output level | 0.2 mW at a load impedance of 32 ohms |

**General**

| | |
|---|---|
| Power requirements | Model for the U.S.A.:<br>120 V AC, 60 Hz<br>Model for the United Kingdom and Australia:<br>240 V AC, 50/60 Hz |
| Power consumption | 14 W |
| Dimensions | Approx. 430 × 123 × 310 mm (w/h/d) (17 × 4⅞ × 12¼ inches) including projecting parts and controls |
| Mass | Approx. 3.1 kg (6 lbs 14 oz) |

**Supplied accessories**
Audio connecting cords (2)

Design and specifications are subject to change without notice.

**Note**
This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

# Troubleshooting Guide

The following trouble checks will help you correct the most common problems encountered with your tape deck. Should any problems persist after you have made these checks, consult your nearest Sony dealer.

Before proceeding with these trouble checks, verify that:
- The power cord is firmly connected.
- Amplifier connections are firmly made.
- Heads, capstans and pinch rollers are clean.
- The amplifier controls and switches are set correctly.

## Function Buttons and Tape Transport Problems

| Symptom | Cause | Remedy |
|---|---|---|
| The function buttons do not activate. | The cassette holder is not fully closed. | Close the holder completely. |
| The ● button does not activate. | There is no cassette in the holder. | Insert a cassette. |
| | A tab has been removed from the cassette. | Cover the slot with tape (page 9). |
| Automatic shut-off mechanism activates before the tape comes to its end. | The cassette shell is deformed. | Use another cassette. |
| Excessively loud tape transport noise during fast winding. | This noise is caused by the cassette and does not signify a mechanical problem. | — |

## Recording and Playback Problems

| Symptom | Cause | Remedy |
|---|---|---|
| Recording or playback cannot be made or there is a decrease in sound level. | The heads are either dirty or magnetized. | Clean or demagnetize the heads (page 10). |
| | Improper connection. | Make connections properly (page 5). |
| | Improper setting of the amplifier controls. | Set the amplifier controls to the appropriate positions. |
| Excessive wow, flutter or drop-out. | The head, capstan or pinch roller is dirty. | Clean in accordance with instructions on page 10. |
| Incomplete erasure. | The erasing head is dirty. | Clean the erasing head (page 10). |
| Increased noise or poor reproduction in high frequencies. | The heads are magnetized. | Demagnetize the heads (page 10). |
| Unbalanced tone in high frequencies. | Improper setting of the DOLBY NR buttons. | During playing back, set the buttons to the same position used in recording. |
| | The unit is placed near a television set. | Move the unit away from the television set. |

## Noise

| Symptom | Cause | Remedy |
|---|---|---|
| Hum noise. | The unit is stacked on or under the amplifier. | Separate the unit. |
| Noise is recorded. | The recording was made near equipment such as a television set or a color monitor, and interference has affected the recording on the tape and the Dolby NR system. | Move the unit away from the television set or color monitor. |

Sony Corporation Printed in Malaysia